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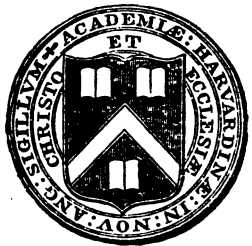
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# THE JOURNAL OF CHRISTIAN PHILOSOPHY

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*"So belief cometh of hearing, and hearing by the word of Christ."—Romans, x, 17.*

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An enumeration of the articles contained in the First Volume may be found on the last page of Cover of the Number for January, 1883.

The Second Volume presents the following articles :

- No. for October, 1882.—1. *Anniversary Address*, by Charles F. Deems, D. D., of New York.—2. *The Validation of Knowledge*, by Prof. Henry N. Day, D. D., of New Haven, Conn.—3. *Christ and Our Century*, by Rev. A. H. Bradford, of Montclair, N. J.—4. *The Duality of Mind and Brain*, by Prof. Noah K. Davis, LL.D., of the University of Virginia.—5. *Nature and the Supernatural*, by Prof. George T. Ladd, D. D., of New Haven, Conn.—6. *God and Man Mutually Visible*, by Howard Crosby, D. D., of New York.

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## ARTICLE VI.

### THE ANTIQUITY OF MAN HISTORICALLY CONSIDERED.

[Present Day Tract No. 9, of the R. T. S., London, England.]

By GEORGE RAWLINSON, M.A.,  
Camden Professor of Ancient History in the University of Oxford.

#### I.

THE problem of the antiquity of man has to the historian two stages. In the first, it is a matter wholly within the sphere of historical investigation, and capable of being determined, if not with precision, at any rate within chronological limits that are not very wide, *i.e.*, that do not exceed a space of two or three centuries. In the further or second stage, it is only partially an historical problem; it has to be decided by an appeal to considerations which lie outside the true domain of the historian, and are to a large extent speculative; nor can any attempt be made to determine it otherwise than with great vagueness, and within very wide limits—limits that are to be measured not so much by centuries as by millennia.

The two stages which are here spoken of correspond to two phrases which are in ordinary use—'Historic man' and 'Prehistoric man.' 'Historic man' means man from the time that he has left contemporary written records of himself, which have in any shape come down to us, and are intelligible. 'Prehistoric man' means man anterior to this—man during the time that he wrote no records of himself, or none that are intelligible, or none that have reached our day. History proper deals with the later stage, the stage for which written records exist; but the

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historian has always to acknowledge a precedent time, to take it into account, and retrospectively glance at it.

In pursuing the present inquiry, we shall, first of all, examine the question, to what length of time history proper goes back—for how many centuries or millennia do the contemporary written records of historic man indicate or prove his existence upon the earth?

And here, in the first place, the inquiry may be restricted to the nations of the Eastern Hemisphere. The New World, at the time of its discovery by Europe, possessed nothing that deserves the name of history. The picture-writings of the Aztecs were not records, but symbolic representations capable of being variously interpreted, and only supposed to become intelligible by the application to them of oral tradition.<sup>1</sup> Thus the native races of America, prior to the Spanish conquests, belong to the category of 'prehistoric' and not of 'historic man,' and therefore do not come under our present head of inquiry.

Of the Old World we possess abundant records, thoroughly intelligible, which are universally admitted to go back to a period not far short of three thousand years from the present time. One record, equally easy to read, carries back the origin of one nation, the Hebrews, at least two hundred years earlier. The Hebrews had at that time been living, according to their own belief, for more than four centuries under subjection to another much more powerful nation, the Egyptians, whose existence is thus thrown back to a date more than three thousand six hundred years from to-day. The native records of Egypt, which are not, however, allowed on all hands to be intelligible, confirm this view, and are even thought to indicate for the Egyptians a still higher antiquity. The cuneiform inscriptions of Babylonia and Assyria, the intelligibility of which is also disputed, in the opinion of those who profess to read them, begin about B.C. 2400. On the whole, it may be said to be the general opinion of scholars that history proper can be traced back a space of at least four thousand years; though the sceptics, who refuse to believe in hieroglyphic or cuneiform decipherment, would contract the period, and deny that any history exists, on

<sup>1</sup> See PRESCOTT, *Conquest of Mexico*, I, 82.

which we can rely, or to which we can attach definite dates, earlier than about B.C. 1000—the time of Sheshonk I. in Egypt, of Solomon in Judea, and of the Dorian conquests in Greece.

It is not our purpose to entrench ourselves within the lines traced out by Sir Cornewall Lewis in his two principal works, *The Astronomy of the Ancients*, and *The Credibility of Early Roman History*. We desire to conduct the present inquiry in a fair, candid, and impartial spirit. We shall, therefore, accept hieroglyphical and cuneiform discovery as *faits accomplis*; we shall reject the extreme sceptical view; and we shall proceed to inquire what contemporary literature, or other valid authority, teaches as to the age of those nations of the Old World which are clearly the most ancient, and which alone dispute among themselves the palm of antiquity.

These nations, according to the general consent of modern historical critics, are the Egyptians, the Babylonians, the Israelites, the Iranians, the nations of Asia Minor, the Phœnicians, the Indians, and the Chinese.

The highest antiquity to which any of these nations ever pretended would seem to be that which was claimed for themselves by the Babylonians. Their astronomers, they said, had observed the heavenly bodies for a space of above 450,000 years. Their first king had ascended the throne 467,581 years before the accession of Pul, or about B.C. 468,330. Babylon had had seven dynasties during this space. The first, consisting of ten kings, had reigned 432,000 years, or an average of 43,200 each. The next, in which there were eighty-six kings, had occupied the throne for 34,080 years, which would give an average of 396 years to each. The remainder had filled a space not much exceeding 1500 years, and had had short reigns, not averaging so much as thirteen years apiece.

Historical criticism has at all times rejected this chronology as incredible. There is no historian of repute who has not set aside the first dynasty as mythical, and but one<sup>1</sup> who has found anything historical in the second. Critics generally draw a sharp line between the second and third dynasties of Berosus, and regard the Babylonian history of this writer as properly com-

<sup>1</sup> The late Baron Bunsen.

mencing with his third or Median dynasty, about B.C. 2250, or (according to an amended reading) B.C. 2460.

It was pointed out long ago by Eusebius,<sup>1</sup> the Church historian, that no events were chronicled as belonging to the enormous space of 466,080 years, by which Babylonian chronology exceeded the ordinary reckoning, and that a chronology which is unsupported by facts of history is worthless.

The allegation, that sidereal observations had been made at Babylon for above 450,000 years is sufficiently met by the fact that when Aristotle commissioned his disciple, Callisthenes, to obtain for him the astronomical lore of Babylon, on Alexander's occupation of the city, the observations were found to extend, not to 450,000 years, but to 1903.

If we turn from the reports of what Babylonian writers of a comparatively late period declared concerning the antiquity of their nation, to the native records which modern research has recovered from the Mesopotamian regions, we shall find them favor a very moderate date for the commencement of Babylonian sovereignty. The earliest Babylonian date contained in a cuneiform document is that of 1635 years before the seventeenth year of Asshur-bani-pal, which gives for the first Elamitic invasion of Babylonia the year B.C. 2286. Only about five monumental kings can be placed in the period which preceded this conquest,<sup>2</sup> whence it would follow that the monuments require no earlier date for the commencement of the Chaldean monarchy than B.C. 2400. There is a tolerably near agreement between this date and the chronology of Berosus, if we reject his first and second dynasties as fabulous.

An antiquity, almost as remote as that claimed for themselves by the Babylonians, has sometimes been ascribed to the Sanskritic conquerors of India. But the latest researches of the best scholars are completely adverse to all such pretensions. M. François Lenormant, in his *Manual of Ancient Oriental History*, which is used widely as a text-book in France, assigns the first entrance of the Sanskritic Indians into the peninsula of Hindustan<sup>3</sup> to no earlier a date than B.C. 2500, and regards their

<sup>1</sup> *Chron. Can.*, Pars I, c. 2, s. 7.

<sup>2</sup> G. SMITH, *History of Babylonia*, p. 10.

<sup>3</sup> *Manuel d'Histoire Ancienne*, III, 431.

*history* as commencing with the "War of the Ten Kings,"<sup>1</sup> somewhere between B.C. 1600 and B.C. 1500. Professor Max Müller scarcely goes back so far. In his *Ancient Sanskrit Literature* he lays it down<sup>2</sup> that four periods of composition may be traced in the Vedas, and that the earliest of these—the Chandas period—to which the most ancient of the Vedic hymns belong, covered the space between B.C. 1200 and B.C. 1000. Of authentic Indian history before this time he does not find in the native literature any trace.

The Iranians had in primitive times a close connection with the Sanskritic Indians, and the earliest glimpses that we obtain of them reach back to about the same date. But *Iranic history* cannot be regarded as commencing before B.C. 820, when the Medes first came into contact with the Assyrians. Portions of the Zendavesta may be six or seven centuries earlier; but Dr. Martin Haug, the best living *Iranic* scholar, does not postulate for the most ancient of the "Gathas" a higher antiquity than B.C. 1500.<sup>3</sup>

The Phœnicians are regarded by some writers as having migrated from the shores of the Persian Gulf to those of the Eastern Mediterranean about B.C. 2500. The mention of Sidon in the Book of Genesis certainly favors the view that their settlement in Syria was of early date; but we have nothing that can be called authentic history in connection with the Phœnician people much more remote than the reign of David in Judea, or B.C. 1050. The Egyptian monuments, which are copious for the space between B.C. 1600 and 1280, contain no distinct mention of them; and one important authority (Josephus<sup>4</sup>) places the foundation of Tyre—which was an event very early in the history of the nation—as late as B.C. 1252. It is not at all clear that the emigration from the Persian Gulf, if it be a fact, preceded B.C. 1500; and it is tolerably evident that the nation enjoyed no great distinction till two centuries later.

The Israelites, as a nation, date from the Exodus, which can scarcely be placed later than B.C. 1300, or earlier than B.C. 1600.

<sup>1</sup> *Manuel d'Histoire Ancienne*, III, pp. 473-475.

<sup>2</sup> Pages 301-305.

<sup>3</sup> *Essays on the Sacred Language, etc., of the Parsees*, p. 225.

<sup>4</sup> *Ant. Jud.*, VIII, iii, 1.

The later date is the more probable. They believed that they had sojourned in Egypt 430 years, their forefather Jacob having entered the country about B.C. 1730. Before this, they possessed nothing beyond a family history. The chronology attached to this history placed the call of Abraham 215 years before the descent of Jacob into Egypt, or about B.C. 1945.

There were two nations of Asia Minor which claimed a considerable antiquity—the Lydians and the Phrygians. The traditions of the Lydians gave them three dynasties before their conquest by Cyrus, and assigned to the third of these 170 years, to the second 505 years, and to the first an indefinite term.<sup>1</sup> The date for the accession of the second dynasty was B.C. 1229; that for the accession of the first cannot well have been lower than B.C. 1400. As for the Phrygians, they were thought by some to be the most ancient people in all the world.<sup>2</sup> They had a tradition of the deluge,<sup>3</sup> and believed their native monarchy to have been among the earliest instituted after that event. Of actual kings they could, however, mention no more than eight before their conquest by Cyrus, so that they did not carry back their own consecutive history beyond B.C. 820. If, however, the Trojans are to be accounted a branch of the Phrygians, the Phrygian nationality must be allowed to date from some four or five centuries before this, since the Homeric poems were probably composed about B.C. 1000, and the war which they celebrate implies a flourishing Trojan kingdom for some centuries previously.

The first European inquirers into Chinese history came to the conclusion that China possessed an authentic and consecutive history commencing with the reign of a certain emperor Yaou, who ascended the throne in B.C. 2356. This opinion maintained its ground for some three hundred years; but recent investigations have thrown discredit upon the work which contained the earlier portion of their supposed history,<sup>4</sup> and have reduced the date for the commencement of the authentic Chinese

<sup>1</sup> HEROD., I, 7-25.

<sup>2</sup> Ibid., II, 2.

<sup>3</sup> See *Bible Educator*, I, 33-38.

<sup>4</sup> See an article contributed to the *Leisure Hour* by Dr. EDKINS in 1876, and republished in the author's *Origin of Nations*, pp. 262-272.

annals from B.C. 2356 at any rate to B.C. 1154. It is not even certain that, when we have reached B.C. 1154, we are on safe ground. One important authority<sup>1</sup> maintains that "the legendary period of 1202 years from B.C. 2356 to B.C. 1154 is followed by a semi-mythical, semi-historical period, which lasts from B.C. 1154 to B.C. 781," and that it is not until this last-named date is reached that trustworthy history commences.<sup>2</sup>

Astronomical grounds have been alleged<sup>3</sup> for carrying back the *origines* of the Chinese to the remote date of B.C. 15,000. As the grounds in question are entirely outside of the domain of history, they do not require any notice in this place. We may remark, however, that the Chinese themselves do not claim an earlier origin for their astronomy than about B.C. 2000; and that the one eclipse of the sun, which they place about this date, having been examined into by the light of modern astronomical science, has been pronounced "unsatisfactory."

There remains for consideration the question of the antiquity of 'historic man' in Egypt. Driven from all their other positions, the advocates of an extreme antiquity for the human race entrench themselves upon Egyptian soil, and maintain that there, at any rate, in the region fertilized by the life-giving Nile, man can be proved to have existed under settled government, and in a fairly civilized community, from a time removed almost seven millennia from the present day. There is no doubt that Egypt was among the earliest, if not the very earliest, of civilized communities. Sacred and profane testimony agree in the assertion of this fact. But the actual date to which Egyptian history ascends is a question of much difficulty and delicacy, very variously determined by those best acquainted with the data on which the problem depends, and no otherwise to be settled than by a careful consideration of all the data in our pos-

<sup>1</sup> Mr. MAYERS in his *Chinese Reader's Manual*, published in 1874.

<sup>2</sup> Since the bulk of the above was in print, Professor Legge has kindly informed me that he regards Chinese history as "well authenticated" up to B.C. 1154, and that he does not altogether reject the authority of the "Book of History," which begins professedly in B.C. 2356. There is a prehistoric period anterior to this, reaching back as far as B.C. 3300; beyond which "there is nothing but mist." These views do not conflict with the final results arrived at in the present "Tract."

<sup>3</sup> By Dr. GUSTAV SCHLEGEL in his *Uranographic Chinoise*.

session, and, where they differ, by a correct critical estimate of their relative value.

The data themselves are of three distinct kinds. They consist, first, of the accounts given by Egyptian *ciceroni* to Greek travellers, who visited their country for the purpose of historic inquiry, and who were particularly curious to know how long the Egyptian monarchy had lasted; secondly, of the reported statements of a native historian of repute, Manetho, who, shortly after Alexander's conquest of the country, wrote its history for the benefit of the Greeks; and thirdly, of such scattered notices as have been recovered from Egyptian papyri and stone monuments.

The earliest Greek travellers in Egypt brought back with them accounts of an antiquity of settled government in that country, very much beyond that which the Egyptians of later times seem to have claimed. Solon was informed that the city of Saïs in the Delta had been founded 8000 years before the date of his visit,<sup>1</sup> which was probably about B.C. 570. The Egyptian archives were represented to him as extending to at least a thousand years earlier.<sup>2</sup> Hecataeus and Herodotus<sup>3</sup> were inclined to believe that Egyptian history could be traced back without a break for 345 generations of men, or, according to the estimate of Herodotus, for 11,500 years. The accession of Manes, the supposed first king, was placed by Herodotus about B.C. 12,000. When Diodorus Siculus paid his visit to Egypt in the reign of Augustus Cæsar, the Egyptian pretensions had been considerably abated; but still he received the impression that the reign of Manes belonged to a time anterior by above four thousand years to the date of his stay.

It is uncertain whether the statements which the Greek writers report, were really made by the responsible persons to whom they are attributed. Greek travellers, who never knew any other language than their own, must have communicated with the Egyptian priests by means of professional interpreters—a class of persons not likely to have been at all superior to the dragomen of the present day. Information filtered through this imperfect medium would naturally suffer by the process; and it

<sup>1</sup> PLAT., *Timæus*, p. 21 E (ed. Stallbaum).

<sup>2</sup> Ibid.

<sup>3</sup> HEROD., II, 142, 143.



is quite possible that the enormous antiquity reported by Solon, Hecatæus, and Herodotus, as claimed for Egypt by its priestly colleges, may have had its origin, not in the serious statements of those learned bodies, but in the mistakes or exaggerations of the persons who professed to convey their statements to the Hellenic inquirers.

No faith is placed at the present day in the vague estimates of Solon, Herodotus, or Diodorus. It is felt that they may readily have been imposed upon; and it is further felt that their authority, whatever might have been its value had it stood alone, is superseded by the two other sources of information on the subject which, as above remarked, are open to us.

Manetho, an Egyptian priest, born at Sebennytus (now *Sem-nâd*) in the Delta, about B.C. 300, in the history of Egypt, which he wrote in Greek for the information of the Greeks under Ptolemy Philadelphus, professed to carry back the *origines* of Egypt to a date more than 30,000 years anterior to Alexander the Great. His scheme of mundane chronology is thus presented by Eusebius<sup>1</sup>:

1. Reigns of the gods .....	13,900 YEARS.
2. Reigns of heroes.....	1,255 "
3. Reigns of other kings.....	1,817 "
4. Reigns of 30 Memphites.....	1,790 "
5. Reigns of 10 Thinites.....	350 "
6. Reigns of Manes and heroes.....	5,813 "
7. Reigns of the 30 dynasties.....	5,000 (?) "
<hr/>	
Total .....	29,925 YEARS.

The wonderful mixture of things human and divine in this list has generally been regarded as discrediting the greater portion of it; but modern critics, for the most part, unwilling to give up the whole, have drawn a line between the sixth heading and the seventh, content to surrender gods and heroes and Manes, and even three dynasties of (apparently) human kings, provided that they may retain the "thirty dynasties," beginning with Menes and ending with Nectanebo II. The number of years assigned to these dynasties by Manetho is very uncertain, but probably exceeded 5000. Thus, if Manetho is to be our

<sup>1</sup> *Chron. Can.*, Pars I, c. 20.

guide, Egyptian *history* must be supposed to go back B.C. 5300, and 'historic man' must be regarded as traceable upon the earth for more than 7000 years.

Why, in an age which has discredited the great mass of historical writers, when they cease to speak from their own knowledge, and report the traditions of their forefathers—an age which questions the existence of Homer, and makes Greek history begin with the First Olympiad, which views Roman history as credible only from the time of the Samnite wars, and which especially rejects dynastic lists unaccompanied by historical facts—Manetho should be made an exception to the ordinary rule, and upheld as well-nigh infallible, is a matter hard of explanation. One would not willingly suppose that the extraordinary deference paid to his authority originated in a wish to convict the Bible of error; but it is difficult to assign any other reason.

For the character of Manetho's history, as it has come down to us, is exactly that which is put aside as worthless generally. Manetho, writing in the third century before Christ, professes to deliver to us an exact account of the number of the Egyptian dynasties, the length of time during which each dynasty occupied the throne, and (in most instances) the names and order of the kings, with the exact number of years that each reigned. He carried his lists back to a date which he regarded as preceding his own time by more than 5000 years. But this extraordinarily long and perfect chronological scheme was, so far as appears, accompanied by only the merest pretence of an historical narrative. We transcribe a dynasty of Manetho's, with the events attached to it.<sup>1</sup>

#### SECOND DYNASTY OF NINE KINGS.

	YEARS	
1. Bochus (Boethus).....	38	The earth gaped near Bubastus, and many perished.
2. Cechous (Cæchôd).....	39	Apis and Mnevis, and the he-goat at Mendes were accounted gods.
3. Biophis (Binôthris).....	47	It was decreed that women might exercise the sovereign power.

<sup>1</sup> See the *Chron. Can.* of EUSEBIUS, Pars I, c. 20, § 4; and compare AFRICANUS ap. Syncell., *Chronograph*, pp. 54, 55.

4. Tlas.....	17	} Nothing remarkable occurred.
5. Sethenes.....	41	
6. Chæres.....	17	
7. Nephcheres.....	25	The Nile flowed during eleven days mixed with honey.
8. Sesôchris.....	48	He was five cubits high and three broad.
9. Cheneres.....	30	Nothing remarkable occurred.
<hr/>		
Total.....	302	

If it be said that this is the account of an epitomizer, and that Manetho doubtless recorded many other facts as having occurred in the 302 years, the answer is, first, that it is the account of two independent epitomizers, and secondly, that we have no evidence of Manetho having mentioned any other facts. Both epitomizers give exactly the same account.

Manetho's history is sometimes said to be authenticated by the monuments. How much, or rather how little, they authenticate it will be shown when we come to consider their evidence. At present we wish to note that Manetho constantly exaggerates his numbers beyond the data contained in the monuments.

1. Manetho allows for no contemporary dynasties. The monuments make it evident that several of his dynasties were contemporary.<sup>1</sup>

2. Manetho makes no allowance for contemporary reigns within a dynasty. The monuments show that such reigns frequently occurred; *e.g.* in the nineteenth dynasty, Seti I. associated his son, Rameses II., when he was ten years old, probably in his own eleventh year, and reigned conjointly with him for about twenty years, after which Rameses continued to reign for about thirty-six years longer. Manetho assigns to the two kings a space of 121 years: the monuments make the space about 77.

3. Manetho habitually enlarges the duration of reigns. Out of thirty-seven cases, where we can compare his numbers with those of the Turin papyrus, he is in excess twenty-two times, and in deficiency only six times. His numbers for the thirty-seven reigns added together amount to 984 years: those of the

<sup>1</sup> LENORMANT, *Manuel d'Histoire Ancienne*, I, 348, 349, 356.

Turin papyrus to 615 years.<sup>1</sup> Thus he is here considerably more than one third in excess.

The result is, that no confidence can be placed in any one of Manetho's numbers, unless it be confirmed by the monuments—an unusual occurrence. Still less can any confidence be placed in his general scheme, his artificial arrangement of the Egyptian monarchs into exactly *thirty* dynasties, represented as consecutive. We must test Manetho at each step by the monuments, and accept his statements only so far as they obtain some sort of monumental confirmation. In this way only can we acquire any reasonable estimate of the probable antiquity of the monarchy which grew up, certainly at a very early date, in the valley of the Nile.

Now the monuments are fairly complete, and consecutive from a time which Manetho called the commencement of the New Empire, and made to synchronize with the accession of his eighteenth dynasty. From this period, which is well marked upon the remains, we have a list of sixty-three kings, nearly the same number as that given by Manetho. The reigns of many are short, and some ruled conjointly; but we cannot well assign to them a less space than 1000 or 1100 years, which would carry back the foundation of the New Empire to B.C. 1527 or B.C. 1627. Beyond this the monuments show many gaps, and are, comparatively speaking, scanty. We have no contemporary records of Manetho's first three dynasties, nor of his seventh, eighth, ninth, or tenth; nor again of his fourteenth, fifteenth, or sixteenth. The earliest Egyptian monument is one of Senefru, first king of Manetho's fourth dynasty. This is followed by the Pyramids and the long series of contemporary tombs at Ghizeh, belonging to the later kings of the same dynasty. Monuments continue numerous under the fifth dynasty and the sixth. They are then absolutely wanting until the eleventh, which has left a few. For the twelfth they are abundant. The main witness for the thirteenth is the Turin papyrus, which is, however, confirmed by a certain number of inscriptions; but, after this, inscriptions fail until quite the end of Manetho's seventeenth dynasty. Thus, out of Manetho's first seventeen dynasties, the

<sup>1</sup> See the author's *History of Egypt*, II, 511-513.

only ones for which we have the evidence of contemporary monuments are the fourth, fifth, and sixth; the eleventh, twelfth, and thirteenth; and the seventeenth. The point for consideration now is, how much time we are bound to allow for these.

Manetho made three dynasties of Hyksôs, or Shepherd Kings, his fifteenth, sixteenth, and seventeenth, and assigned to them a period which is variously stated at 511 and 953 years.<sup>1</sup> The monuments recognize one dynasty only, and are incompatible with its having held the dominion of Egypt for more than two, or at most three, centuries. Canon Cook has shown strong grounds for assigning to the Hyksôs period, or 'Middle Empire,' no longer a space of time than 250 years.<sup>2</sup> It may be questioned whether two centuries would not be a better estimate, since the dynasty was one of only five or six kings. The Middle Empire may, therefore, be regarded as having commenced about B.C. 1727 or 1827.

The monumental dynasties of the Early Empire are six in number. The first of them, Manetho's fourth, consisted of either five or six kings, whose united reigns amounted, according to Manetho, to 268 years: according to the Turin papyrus, to 102. The second, Manetho's fifth, comprised seven kings, whose united reigns covered a space of about 120 years. The third, Manetho's sixth, contained five or six monarchs, and may be allowed about the same duration. The fourth, Manetho's eleventh, consisted of either six or eight kings, and probably held the throne for about a century and a half. The fifth, Manetho's twelfth, was a dynasty of great importance. It numbered nine sovereigns, and ruled for about 190 years. The sixth, Manetho's thirteenth, comprised numerous kings, who reigned on an average about three years apiece. The earlier monarchs of the list may have been independent; but the later ones were probably tributary to the Shepherds, and contemporary with them. We need not allow the dynasty more than 100 years of independent rule.

The result is, that for the 'Old Empire' we must allow a term of about seven centuries, or seven centuries and a half;

<sup>1</sup> JOSEPHUS says 511 (*Contr. Ap.*, i. 14), AFRICANUS, (ap. Syncell. *Chron.*, p. 60 B) 953.

<sup>2</sup> See the *Speaker's Commentary*, I, 447, 448.

whence it follows that we must assign for the commencement of Egyptian monarchy about the year B.C. 2500, or from that to B.C. 2650. This is the furthest date to which 'History Proper' can be said, even probably, to extend. It is capable of some curtailment, owing to the uncertainty which attaches to the real length of the earlier dynasties, but such curtailment could not be very considerable.

The history of man may then be traced from authentic sources a little beyond the middle of the third millennium before our era. It is true and safe to say that man has existed in communities under settled government for about four thousand five hundred years; but it would not be safe to say that he had existed in the condition which makes history possible for any longer term.

## II.

The first stage of the inquiry here ends. It remains that we address ourselves to the second and more difficult question—What is the probable age of 'prehistoric man'? for how long a time is it reasonable to suppose that mankind existed on the earth before states and governments grew up, before writing was invented, and such a condition of the arts arrived at as we find prevailing in the time when history begins, *e.g.*, in Egypt at the Pyramid period, about B.C. 2600, and in Babylonia about two centuries later?

Professor Owen is of opinion that the space of "7000 years is but a brief period to be allotted to the earliest civilized and governed community"<sup>1</sup>—that of Egypt; nay, he holds that such a period of "incubation," as he postulates, is so far from extravagant that it is "more likely to prove inadequate" for the production of the civilization in question.<sup>2</sup> This is equivalent to saying that we must allow 2500 years for the gradual progress of man from his primitive condition to that whereto he has attained when the Pyramid Kings bear sway in the Nile valley. Other writers have proposed a still longer term, as 10,000, 15,000, or even 20,000 years.<sup>3</sup>

<sup>1</sup> See an "Address" delivered to the International Congress of Orientalists in 1874, reported in *The Times* of September 21 of that year.

<sup>2</sup> See the Author's *Origin of Nations*, p. 260.

<sup>3</sup> BUNSEN, *Egypt's Place in Universal History*, V, 103.

Now, here it must be observed, in the first place, that no estimate can be formed which deserves to be accounted anything but the merest conjecture, until it has been determined what the primitive condition of man was. To calculate the time occupied upon a journey, we must know the point from which the traveller set out. Was then the primitive condition of man, as seems to be supposed by Professor Owen, savagery, or was it a condition very far removed from that of the savage?

'The primeval savage' is a familiar term in modern literature; but there is no evidence that the primeval savage ever existed. Rather, all the evidence looks the other way. "The mythical traditions of almost all nations place at the beginnings of human history a time of happiness and perfection, a 'golden age,' which has no features of savagery or barbarism, but many of civilization and refinement."<sup>1</sup> The sacred records, venerated alike by Jews and Christians, depict antediluvian man as from the first tilling the ground, building cities, smelting metals, and making musical instruments. Babylonian documents of an early date tell, similarly, of art and literature having preceded the Great Deluge, and having survived it.<sup>2</sup> The explorers who have dug deep into the Mesopotamian mounds, and ransacked the tombs of Egypt, have come upon no certain traces of savage man in those regions, which a wide-spread tradition makes the cradle of the human race. So far from savagery being the primitive condition of man, it is rather to be viewed as a corruption and a degradation, the result of adverse circumstances during a long period of time, crushing man down, and effacing the divine image wherein he was created.

Had savagery been the primitive condition of man, it is scarcely conceivable that he could have ever emerged from it. Savages, left to themselves, continue savages, show no sign of progression, stagnate, or even deteriorate. There is no historical evidence of savages having ever civilized themselves, no instance on record of their having ever been raised out of their miserable condition by any other means than by contact with a civilized race. The torch of civilization is handed on from age

<sup>1</sup> See the Author's *Origin of Nations*, pp. 10, 11.

<sup>2</sup> BEROSUS, Fr. 7; ABYDENUS, Fr. 1.



to age, from race to race. If it were once to be extinguished, there is great doubt whether it could ever be relighted.

Doubtless, there are degrees in civilization. Arts progress. No very high degree of perfection in any one art was ever reached *per saltum*. An 'advanced civilization'—a high amount of excellence in several arts implies an antecedent period during which these arts were cultivated, improvements made, perfection gradually attained. If we estimate very highly the civilization of the Pyramid period in Egypt, if we regard the statuary of the time as equalling that of Chantrey,<sup>1</sup> if we view the Great Pyramid as an embodiment of profound cosmical and astronomical science,<sup>2</sup> or even as an absolute marvel of perfect engineering construction, we shall be inclined to enlarge the antecedent period required by the art displayed, and to reckon it, not so much by centuries, as by millennia. But if we take a lower view, as do most of those familiar with the subject—if we see in the statuary much that is coarse and rude, in the general design of the Pyramid a somewhat clumsy and inartistic attempt to impress by mere bulk, in the measurements of its various parts and the angles of its passages adaptations more or less skilful to convenience, and even in the "discharging chambers" and the "ventilating shafts" nothing very astonishing, we shall be content with a shorter term, and regard the supposed need of millennia as an absurdity.

There is in truth but one thing which the Egyptians of the Pyramid period could really do surprisingly well; and that was, to cut and polish hard stone. They must have had excellent saws, and have worked them with great skill, so as to produce perfectly flat surfaces of large dimensions. And they must have possessed the means of polishing extremely hard material, such as granite, syenite, and diorite. But in other respects their skill was not very great. Their quarrying, transport, and raising into place of enormous blocks of stone is paralleled by the Celtic builders of Stonehenge, who are not generally regarded as a very advanced people. Their alignment of their sloping galleries at the best angle for moving a sarcophagus along them may have been the result of "rule of thumb." Their exact emplacement

<sup>1</sup> Professor OWEN in the Author's *Origin of Nations*, p. 258.

<sup>2</sup> PIAZZI SMITH, *Antiquity of Intellectual Man*.

of their pyramids so as to face the cardinal points needed only a single determination of the sun's place when the shadow which a gnomon cast was lowest.

Primitive man, then, if we regard him as made in the image of God—clever, thoughtful, intelligent, from the first, quick to invent tools and to improve them, early acquainted with fire and not slow to discover its uses, and placed in a warm and fruitful region, where life was supported with ease—would, it appears to the present writer, not improbably have reached such a degree of civilization as that found to exist in Egypt about B.C. 2600, within five hundred or, at the utmost, a thousand years. There is no need, on account of the early civilization of Egypt, much less on account of any other, to extend the 'pre-historic period' beyond this term.

Mere rudeness of workmanship and low condition of life generally is sometimes adduced as an evidence of enormous antiquity; and the discoveries made in cairns, and caves, and lake-beds, and kjökkenmöddings are brought forward to prove that man must have a past of enormous duration. But it seems to be forgotten that as great a rudeness and as low a savagism as any which the spade has ever turned up, still exists upon the earth in various places, as among the Australian aborigines, the Bushmen of South Africa, the Ostiaks and Samoyedes of Northern Asia, and the Weddas of Ceylon. The savagery of a race is thus no proof of its antiquity. As the Andaman and Wedda barbarisms are contemporary with the existing civilization of Western Europe, so the palæolithic period of that region may have been contemporary with the highest Egyptian refinement.

Another line of argument sometimes pursued in support of the theory of man's extreme antiquity, which is of a semi-historic character, bases itself upon the diversities of human speech. There are, it is said,<sup>1</sup> four thousand languages upon the earth, all of them varieties, which have been produced from a single parent stock—must it not have taken ten, fifteen, twenty millennia to have developed them?

Now here, in the first place, exception may be taken to the statement that "all languages have been produced from a single

<sup>1</sup> NICHOLL, *Prehistoric Man*.

parent stock," since, if the confusion of tongues at Babel be a fact, as allowed by the greatest of living comparative philologists,<sup>1</sup> several distinct stocks may at that time have been created. Nor has inductive science done more as yet than indicate a *possible* unity of origin to all languages, leaving the fact in the highest degree doubtful.<sup>2</sup> But, waiving these objections, and supposing a primitive language from which all others have been derived, and further accepting the unproved statement, that there are four thousand different forms of speech, there is, we conceive, no difficulty in supposing that they have all been developed within the space of five thousand years. The supposition does not require even so much as the development of one new language each year. Now, it is one of the best attested facts of linguistic science, that new languages are being formed continually. Nomadic races without a literature, especially those who have abundant leisure, make a plaything of their language, and are continually changing its vocabulary. "If the work of agglutination has once commenced," says Professor Max Müller,<sup>3</sup> "and there is nothing like literature or science to keep it within limits, two villages, separated only for a few generations, will become mutually unintelligible." Brown, the American missionary, tells us of some tribes of Red Indians who left their native village to settle in another valley, that they became unintelligible to their forefathers in two or three generations. Moffatt says that in South Africa the bulk of the men and women of the desert tribes often quit their homes for long periods, leaving their children to the care of two or three infirm old people. "The infant progeny, some of whom are beginning to lisp, while others can just master a whole sentence, and those still further advanced, romping together through the live-long day, become habituated to a language of their own. The more voluble condescend to the less precocious, and thus from this infant Babel proceeds a dialect of a host of mongrel words and phrases, joined together without rule, and in the course of one generation the entire character of

<sup>1</sup> MAX MÜLLER, *Lectures on the Science of Language*, First Series, p. 125.

<sup>2</sup> *Ibid.*, pp. 318-327.

<sup>3</sup> In BUNSEN, *Philosophy of Universal History*, III, 483.

the language is changed.”<sup>1</sup> Castren found the Mongolian dialects entering into a new phase of grammatical life, and declared that “while the literary language of the race had no terminations for the persons of the verb, that characteristic feature of Turanian speech had lately broken out in the spoken dialects of the Buriatic and in the Tungusic idioms near Njestschinsk in Siberia.”<sup>2</sup> Some of the recent missionaries in Central America, who compiled a dictionary of all the words they could lay hold of with great care, returning to the same tribe after the lapse of only ten years, “found that their dictionary had become antiquated and useless.”<sup>3</sup> When men were chiefly nomadic, and were without a literature, living moreover in small separate communities, linguistic change must have proceeded with marvellous rapidity, and each year have seen, not one new language formed, but several.

The linguistic argument sometimes takes a different shape. Experience, we are told, furnishes us with a measure of the growth of language, by which the great antiquity of the human race may be well-nigh demonstrated. It took above a thousand years for the Romance languages—French, Italian, Spanish, Portuguese, Wallachian, and Roumansch, or the language of the Grisons—to be developed out of Latin. Must it not have taken ten times as long to develop Latin and its sister tongues—Greek, German, Celtic, Lithuanian, Sclavonic, Zend, Sanskrit—out of their mother speech? Nor was that mother speech itself the first form of language. Side by side with it, when it was a spoken tongue, must have existed at least two other forms of early speech, one the parent of the dialects called Semitic—Hebrew, Arabic, Syriac, Phœnician, Assyro-Babylonian, etc.—the other bearing the same relation to the dialects of the nomad races scattered over Central and Northern Asia—the Tungusic, Mongolic, Turkic, Samoyedic, and Finnic—which are all “radii from a common centre,”<sup>4</sup> and form a well-established linguistic family. But these three mighty streams, which we may watch rolling on through centuries, if not millennia, distinct and separate one from another, are not wholly unconnected. If we trace them back as far as

<sup>1</sup> See MAX MÜLLER, *Lectures on the Science of Language*, First Series, pp. 53, 54.

<sup>2</sup> *Ibid.*, p. 53.

<sup>3</sup> *Ibid.*, p. 51.

<sup>4</sup> *Ibid.*, p. 33.

the records of the past allow, we shall find that "before they disappear from our sight in the far distance, they clearly show a convergence towards one common source."<sup>1</sup> Widely different, therefore, as they are both in grammar and vocabulary, they too must have had a common parent, have been developed out of a still earlier language, which stood to them in the relation that Latin bears to Italian, Spanish, and French. But in what a length of time? If the daughter languages of the Latin were only developed in the space of a thousand years, and Latin, with its sister tongues, required ten or twenty times as long to be developed out of the primitive Aryan speech, how much longer a time must have been needed for the formation from one common stock of the primitive Aryan, the primitive Semitic, and the primitive Turanian types! When from reasoning of this kind—regarded as valid—the conclusion is deduced, that "twenty-one thousand years is a very probable term for the development of human language in the shortest line,"<sup>2</sup> we can only feel surprise at the moderation of the reasoner.

But the reasoning is invalid on several grounds.

1. The supposed induction is made from a single instance—the case of Latin and its daughter tongues. To prove the point, several cases parallel to that of Latin should have been adduced.

2. The time which it took for Latin to develop into Italian, Spanish, Wallachian, etc., assumed to be known, is not known. No one can say when Italian was first spoken. All that we know is, when it came to be a literary language. The fact seems to be that the Gauls and Spaniards, even the provincial Italians, learnt Latin imperfectly from the first, clipped it of its grammatical forms, corrupted its vocabulary, introduced phonetic changes consonant with their own habits and organs of speech. Languages nearer to Spanish and Italian than to classical Latin were probably spoken generally in Spain and Italy, while Latin was still the language of the capital and of polite society.

3. Linguistic development is not, in fact, equal in equal times. On the contrary, there are periods when changes are

<sup>1</sup> MAX MÜLLER, *Lectures on the Science of Language*, First Series, p. 33.

<sup>2</sup> BUNSEN, *Egypt's Place in Universal History*, IV, 563.

slow and gradual, while there are others when they take place with extraordinary rapidity. English altered between Chaucer and Shakespeare very greatly more than it has changed between Shakespeare and the present day. Changes are greatest and most rapid before there is a literature; consequently, in the early stages of a language's life. And they are facilitated by the absence of intercourse and isolation of tribe from tribe, which is the natural condition of mankind before states have been formed and governments set up. In the infancy of man linguistic change must almost certainly have progressed at a rate very much beyond that at which it has moved within the period to which history reaches back.

It is as impossible, therefore, to measure the age of language by the period—supposing it known—which a given change occupied, as it would be to determine the age of a tree by the rate of growth noted at a particular time in a particular branch.

The diversities of physical type have also been viewed as indicating a vast antiquity for man, more especially when taken in connection with supposed proof that the diversities were as great four thousand years ago as they are now. The main argument here is one with which history has nothing to do. It is for physiologists, not for historians, to determine how long it would take to develop the various types of humanity from a single stock. But the other point is an historical one, and requires to be considered here. Now, it is decidedly not true to say that all, or anything like all, the existing diversities of physical type can be traced back for four thousand years, or shown to have existed at the date of B.C. 2100. The early Egyptian remains indicate, at the most, five physical types—those of the Egyptians themselves, the Cushites or Ethiopians, the Nahsi or Negroes, the Tahennu or Lybians, and the Amu or Asiatics. The Egyptians are represented as of a red-brown color, but their women as nearly white. They have Caucasian features, except that their lips are unduly thick. The Ethiopians have features not dissimilar, but are prognathous and much darker than the Egyptians, sometimes absolutely black. The negroes are always black, with crisp, curly hair, snub noses, and out-turned lips; but they are not represented until about B.C. 1500. The Tahennu or Lybians of the North African coast have features not

unlike the Egyptians themselves, but are fair-skinned, with blue eyes and lightish hair. The Amu have features like those of the Assyrians and Jews: they vary in color, being sometimes reddish, sometimes yellow, and having hair which is sometimes light, sometimes dark. The diversities are thus considerable, but they are far from equalling those which now exist. And it may be suspected that each type is exaggerated. As there cannot have been the difference of color between the Egyptian men and the Egyptian women which the monuments represent, so it is to be supposed that in the other cases the artists intensified the actual differences. The Ethiopian was represented darker than he was, the Lybian lighter; the negro was given crisper and bushier hair, a snubber nose, and thicker lips. Art, in its infancy, marks differences by caricaturing them. We must not argue from caricatures, as if they had been photographs.

We are not obliged, then, to relegate the entire development of existing physical types to the prehistoric period, and on that account to give it, as has been proposed, a vast enlargement. History shows us five types only as belonging to its first period. The rest may have been developed subsequently.

### III.

Further, there are a certain number of positive arguments which may be adduced in favor of the 'juvenility' of man, or, in other words, of his not having existed upon the earth for a much longer period than that of which we have historical evidence.

As, first, The population of the earth. Considering the tendency of mankind to "increase and multiply," so that, according to Mr. Malthus,<sup>1</sup> population would excepting for artificial hindrances, double itself every twenty-five years, it is sufficiently astonishing that the human race has not, in the space of five thousand years, exceeded greatly the actual number, which is estimated commonly at a thousand millions of souls. The doubling process would produce a thousand millions from a single pair in less than eight centuries. No doubt, 'hindrances' of one kind or another would early make themselves felt. The

<sup>1</sup> *Essay on Population*, I, 6-8.



difficulty of obtaining subsistence would either defer marriage or introduce the practice of infanticide. War, famine, pestilence would, from time to time, sweep off whole nations, and would act as a continual check and drag upon the rate of increase. In civilized communities regard for social position would induce self-restraint among one class, while profligacy and vice would exhaust the physical powers, and so hinder reproduction in another. But, notwithstanding all these obstacles, population, it is plain, still grows; every year sees the earth more thickly peopled; in almost every country where a census of the inhabitants is, from time to time, carefully taken, some increase is noted. In our own country the total has risen from twenty-five to thirty-five millions within the writer's lifetime. Is it conceivable that, if man had occupied the earth for the "one hundred or two hundred thousand years" of some writers,<sup>1</sup> or even for the "twenty-one thousand" of others,<sup>2</sup> he would not by this time have multiplied far beyond the actual numbers of the present day? No one can doubt that the earth is capable of nourishing ten times its existing number of inhabitants. Give man the "vast and profound antiquity" proposed,<sup>3</sup> and what has hindered him from reaching that point of equilibrium between his numbers and the food-producing capacity of the globe, to which, if continued in existence, he must ultimately attain?

Secondly, Does not the fact that there are no architectural remains dating back further than the third millennium before Christ indicate, if not prove, the (comparatively) recent origin of man? Man is as naturally a building animal as the beaver. He needs protection from sun and rain, from heat and cold, from storm and tempest. According to Scripture, the son of the first man who was born into the world "builded a city;" and the waters of the flood were scarcely subsided when the cry arose, "Let us build us a city and a tower." Brick is easily made: stone of many kinds is not difficult to hew. Can man have been long upon the earth before he began to raise structures of some considerable size and solidity? Nay, can it have been *very* long before he conceived the idea of "making himself a name" (*Gen.*

<sup>1</sup> MORGAN, *Ancient Society*, Preface, p. v.

<sup>2</sup> BUNSEN, *Egypt's Place*, IV, 563, 564.

<sup>3</sup> MORGAN, l. s. c.

xi, 4), by erecting a building which would endure, and carry down his memory to future ages? It is true that from the moment that man produces an architectural work decay sets in. *Tempus, edax rerum*; and the earlier essays of humanity in architecture have doubtless perished. But there are countries and climates where time's power is reduced to a minimum, and the gnawing of his tooth *almost* defied. How is it that Egypt and Babylonia do not show us pyramids and temple towers in all the various stages of decay, reaching back further and further into the night of ages, but start, as it were, with works that we can date, such as the Pyramids of Ghizeh, and the *ziggurat* of Uruk at *Mugheir*? Why has Greece no building more ancient than the treasury of Atreus, Italy nothing that can be dated further back than the flourishing period of Etruria (B.C. 700–500)? Surely, if the earth has been peopled for a hundred thousand, or even twenty thousand years, man should have set his mark upon it more than five thousand years ago.

Third. If man is of the antiquity supposed, how is it that there are still so many waste places upon the earth? What vast tracts are there, both in North and South America, which continue to this day untouched primeval forests? The Amazon and its tributary streams water a region which is as large as Russia in Europe, of this description. Others are to be found on the Colorado and the Mississippi, and also in the vast expanse which lies between Upper Canada and the Pacific Ocean. Again, what millions of acres are there in Russia in Asia, well suited for agriculture, over which there now roam only a few thousands of nomads! The entire Russian possessions in this quarter, though estimated to contain more than five millions of square miles, have a population of under four millions of souls. Must not man have thrust himself into these regions ere now in crowd upon crowd, and have settled down there in agricultural communities, were he not, comparatively, a new comer upon the earth? Like a boat's crew, cast but lately on a desert isle, he has not one-half examined, much less taken possession of, his inheritance.

Fourth, and finally, we venture to ask, which is worthier of the Divine Wisdom and Benevolence, that man should have commenced his being in a civilized condition—albeit the form of the

civilization was simple and incipient—and should have retained that position, gradually improving it, though here and there falling off into savagery, for some five or six thousand years, or that the subjoined view, which is the outcome of recent speculation on the subject, should be true:

“If we assume a hundred thousand years as the measure of man’s existence upon the earth in order to find the relative length of each period, . . . it will be seen at once that *at least sixty thousand years must be assigned to the period of savagery*. Three-fifths of the life of the most advanced portion of the human race, on this apportionment, was spent in savagery. Of the remaining years, *twenty thousand*, or one-fifth, *should be assigned to the Older Period of barbarism*. *For the Middle and Later Periods [of barbarism] there remain fifteen thousand years*, leaving five thousand, more or less, for the period of civilization. The relative length of the period of savagery is more likely under than over stated.”—MORGAN, *Ancient Society*, pp. 38, 39.

Sixty thousand years of savagery, and thirty-five thousand years of barbarism, which is nearly the same thing—to five thousand years, “more or less,” of civilization, is scarcely satisfactory.

#### IV.

The results arrived at seem to be that, while history carries back the existence of the human race for a space of 4500 years, or to about B.C. 2600 (p. 352), a prehistoric period is needed for the production of the state of things found to be then existing, which cannot be fairly estimated at much less than a millennium (p. 355). But if a continuous space of 5500 years be thus required for man’s passage into his present position, some alteration will need to be made in our customary and traditional beliefs. Either the Flood must be regarded as partial, and especially as not having affected Egypt, or the ordinary chronology of the period between Noah and the Call of Abraham must receive some expansion. But the universality of the Flood can scarcely be called in question without doing violence to the entire account given in *Genesis*, vi.–ix., as well as to certain passages of the New Testament, as especially *Matt.*, xxiv, 37–39, and *2 Peter*, ii, 5. It is, moreover, supported by a most widely-spread—an almost universal tradition. The supposed chronology of the period between the Flood and Abraham contains, on

the contrary, various elements of uncertainty within itself, and has no support of external evidence. In the first place, it is composed of a series of numbers, no one of which is repeated or otherwise checked by the context. In the second place, among the numbers a very undue proportion are round, and therefore probably inexact. Thirdly, in the three ancient versions of the Old Testament which have come down to us—the Hebrew, the Samaritan, and the Septuagint—the numbers are widely different. According to the Hebrew Bible, the sum total of the years between the Flood and the Call of Abraham was 427; according to the Samaritan it was 1002; according to the Septuagint it was 1132. Supposing the Call to have taken place about B.C. 2000, the Hebrew date for the Deluge would be B.C. 2427; the Samaritan, B.C. 3002; the Septuagint, B.C. 3132. Even the earliest of these dates seems, however, to be insufficient. May we not, therefore, regard it as highly probable that the numbers have suffered corruption *in all the three versions*, and that the real space between the Deluge and Abraham exceeded even the Septuagint estimate?

If the Flood is placed about B.C. 3600, there will be ample time for the production of such a state of society and such a condition of the arts as we find to have existed in Egypt a thousand years later, as well as for the changes of physical type and language which are noted by the ethnologist. The geologist may add on 2000 years more for the interval between the Deluge and the Creation, and may perhaps find room therein for his 'palæolithic' and his 'neolithic' periods.

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By THE EDITOR, Tarrytown, N. Y.

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"Set for the Defence of the Gospel."—*Philippians*, i, 16

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# *The Journal of Christian Philosophy*

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Through the engagement of highest Evangelical scholarship of our own land and of other countries:

1. To present anew the various branches of the Theistic Argument, with special reference to the multiplied proofs afforded by the progress and discoveries of Science, Natural History, Biology, and Psychology in late years, for the existence, character, and plan of God.

2. To discuss the Relations of the Supernatural to the Natural, particularly in regard to Providence, History, and Revelation.

3. To restate the Evidences of Christianity in the light of modern criticism, making prominent the fact and the perfection of Christ himself as an exposition of the Divine, as a power for awakening a faultless moral life, and as a demonstration in his resurrection of Immortality.

4. To set forth the reality, the beauty, and the joy of the Spiritual Life, to indicate its means of nurture; and, at large, to promote the increase of Positive Religion.

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6. To promote a more General Culture in the Reasons of our Hope, and the application of the principles of the Gospel to Political, Social, and Private Life.

7. To adapt such essays to the restoration of Belief in Christ among those whose faith may have been shaken by the destructive speculations and materialistic theories of our day, and to counteract all tendencies toward doubt, scepticism, unbelief, atheism, agnosticism, and the many forms of current infidelity.

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The active interest in the Aim and Circulation of This Journal is earnestly desired on the part of every one to whom the Defence and the Victory of the Gospel of Christ are dear.

**J. A. PAINE, Editor and Publisher,**

ROOM 30 BIBLE HOUSE, ASTOR PLACE, NEW YORK.

## ARTICLE VI.

### THE AGE OF MAN GEOLOGICALLY CONSIDERED.

[A portion of Present Day Tract, No. 13, of the R. T. S. of London, England.]

*Samuel Randles*

By S. R. PATTISON, Esq., F.G.S.

#### I. THE QUESTION STATED.

THE recent soil of England, or "made ground," in which the relics of our predecessors lie buried, shows successive occupation of the surface by Kelt and Saxon, Norman and English. We can assign, from contemporary history, dates to everything which we find in it. This can also be done around the shores of the Mediterranean, and in more remote Babylonia, Assyria, and Egypt. But in turning up the gravel below the "made ground," or raking out the bottom of caves, we discover mysterious traces of human handicraft respecting which history is absolutely silent. We find rough stone tools, so buried as to show that those who fabricated and used them lived prior to all other monuments, prior to ordinary history, prior even to the legendary period of our annalists. As the oldest known indications of man on the earth they possess for us a powerful and unique interest, far beyond their mere claims on our curiosity as articles of early art.

We can fix within a few centuries the date of the earliest inscribed monuments; and then by adding four or five hundred years to this, in order to allow for the antecedents of the state of things which they represent, we get an approximate date for the origin of the historical period back beyond the days of Abraham. With regard, however, to the antecedent period, brought to light by the flint implements, we are utterly at a loss, so far as written records go



There is a chasm of unknown breadth between the time of the old implements (palæolithic) and the historic period; in the beginning of the latter we find in Western Europe smooth stone implements (neolithic, new stone) associated with pottery and relics, to which we can ascribe an antiquity of four thousand years at furthest.

The problem to be solved is the age of the preceding gravels with palæolithic implements, which must determine the epoch of man's first appearance, where they occur.

It only adds to the mysteries surrounding the matter, to be told first, that the gravel containing these implements also contains the remains of animals now extinct; and secondly, that they are found beneath the soil, not only over Europe, but in the East. The Somme valley in France, and the Thames banks in England, are nearly representative cases of a state of things which appears to have been very general at one time, before history begins.

Scripture does not appear to throw any light on this subject, unless we find it in the few words which disclose the universal moral decadence of mankind before the flood.<sup>1</sup> It was not within the declared scope of revelation to give this information.

In order to measure the difficulty, and give some hints for its solution, we must now refer to its geological conditions.

## II. GEOLOGY.

The geological term for the accumulations of soil during historical time is "recent." These have been spread over the land by the wear of the solid materials, through the agency of causes still in operation, at present rates of action.

The underlying strata are classified by geologists, in the descending scale, as quaternary, tertiary, secondary, and primary. With the last two we have nothing to do in the present inquiry, nor with the tertiary, except to observe that in its uppermost division, called the pliocene, we discover for the first time, as we ascend, the existence of the great groups of mammalian animals, with some forms of which, in the stratum above, man is found associated.<sup>2</sup>

<sup>1</sup> "And the earth was filled with violence; . . . all flesh had corrupted His way upon the earth."—*Genesis*, vi, 11.

<sup>2</sup> "Nor in the succeeding pliocene age can we expect to find man upon the

Up to this time it is demonstrable that the surroundings were unfitted for the human race, one proof of which is, that no trace of cereal plants has been found in the tertiary strata. When we come up to the quaternary, a great number of animals previously unknown appear ; and with these, late in the series, in the gravels and caves, appear the mysterious tokens of the presence of man, the summit and crown of life on this earth.

The gravel in which these discoveries are made is not spread evenly over the surface, but occurs only in patches and beds, principally along the sides of wide valleys, and above the level of the streams in their neighborhood. It is evident, on the slightest inspection, that the gravel, whilst it was being laid down, and since, has been subjected to rushes of water, which have occasionally brought down sand ; and to intervals of quiet, during which fine mud was deposited which became loam or brick-earth when dry, so that layers of river shells, layers of land shells, and bones of land animals once living on adjacent surfaces, are now found lying in the brick-earth and gravels.

Recurring for a moment to the earlier part of the quaternary, we find the presence of ice, covering a great part of England, more than half of Russia, all Scandinavia, Prussia, North Germany, and a large extent of North America. This was the glacial epoch, of the duration of which there is no chronological evidences, nor any evidence of what may have been the condition of other regions at the same time.

The effects of the land ice of this period are to be seen in the rubble heaps and banks which dot and diversify our landscapes ; and the long banks of ancient mud in the south of Scotland equally represent the action of the icebergs of the old icy sea. Can we get any evidence on our subject from these sources ? We believe not ; for although the great majority of cases of the occurrence of implements in the gravel are undoubt-

earth, because of the very few living species of placental mammals then alive. The evidence brought forward by Professor Capellini, in favor of pliocene man in Italy, seems both to me and to Dr. Evans unsatisfactory, and that advanced by Professor Whitney in support of the existence of pliocene man in North America, cannot in my opinion be maintained. It is not until we arrive at the succeeding stage, or the pleistocene, when living species of mammalia begin to abound, that we meet with indisputable traces of the presence of man on the earth."—Professor BOYD DAWKINS, British Association, 1882.

edly post-glacial, yet some instances show the prevalence or near neighborhood of glacial conditions, but these may have been local only, and therefore afford us no assistance in the present inquiry.

The most recent investigators into the age of the implement gravels in the east of England (which are obviously of the same general epoch as those of the Thames and Somme), have come to the conclusion that they are post-glacial. We are told that in the valleys of the Lark in Norfolk, Little Ouse, and others, whilst great antiquity must be assigned to the implements, the evidence, thus far, fairly interpreted, will not allow us to assign to any of the beds containing them a greater age than those usually classed as quaternary or post-glacial. Professor Blake also, a well-known careful geologist, says, that so far as his own investigations have gone, he considers that there is no reliable evidence of any flint-implement-bearing bed in the east of England being of greater antiquity than that generally known as the post-glacial period.<sup>1</sup>

Taking the full prevalence of the glacial epoch as a baseline, we find that the ice which radiated from the high lands, and the icebergs which streamed from the Northern Sea, have left records in lines of polished and striated rocks and scooped valleys, and lake-basins, and mud-banks, and confused stone-heaps. As local glaciers melted away, the whole land became submerged, and a fresh surface was moulded by retreating waters, and rivers; and amidst the growth of trees and plants of existing species, man now suddenly appears in these parts as a hunter and cave-dweller.

At this time the gravel-beds and caves reveal to us the existence of two kinds of gigantic elephant, two species of rhinoceros, the Auvergne bear, the sabre-toothed lion, deer, hippopotamus, and other animals mostly now extinct, with oxen, stags, and red-deer, of still living species.

The climate became ameliorated towards the end of the quaternary: the reindeer, which had roamed down as far as Spain, retreated northwards.

When we speak of the glacial epoch, it must be remembered that this does not imply a period of universal ice. The geology

<sup>1</sup> *Geological Magazine*, January, 1883, p. 38.

of Central Asia is yet but little known with regard to the period in question. It is quite possible that the countries beyond the range of Arctic conditions may contemporaneously have been the scene of some of the events of early history, for aught we know. The tribes which wandered and hunted along the edges of the great ice-cap and over the plains of the Western world, and over Greece and India, may have been the offshoots of a previous comparative civilization which obtained in some more favored spot.

But the world was not yet at rest. After the advent of man, as shown by geology, the surface was, at least in these Western parts, subjected to much turbulence and violent action. The soil where the quaternary gravels are now found, was first lifted up, and then depressed, and traversed by streams larger and swifter than the existing rivers, though in the same direction. In the former period, the waters tore up the surface, and filled the valleys with gravels. In the latter, the valleys were excavated, and the gravel re-sorted, and interspersed with sand and mud. The formation of river terraces shows that both these movements were accompanied by long periods of repose.

Man, in England, preceded this, the last great physical revolution; and the date and duration of the latter, if discoverable, will go far to give us that of his antiquity.

The implement gravel is of the same age as the sand and mud in which the mammoth is found, with parts of the body well preserved, in icy clay, in Siberia. Mammoth tusks are so numerous along the shores of the Arctic Sea as to have formed for several centuries a valuable article of commerce.

To the epoch of the gravels belong also the earliest of the cave deposits. The caves at that time were at the level of the streams on whose sides they range, but now they are at varying heights above them.

### III. THE FLINT IMPLEMENTS.

It is in the gravels and brick-earth, the graves of the great mammals, and in the lowest floors of the caves, that stone tools, adapted equally for cutting, digging, or striking, appear.

The most numerous of these are shaped fragments of the pebbles themselves, or of stones obtainable hard by. They have

been struck with other stones, so as to produce cutting edges and a symmetrical form; most of them show that they have been used, and some have their edges blunted by having been rolled along with the gravel. They have been abandoned or dropped, and then covered by subsequent inundations.

Dr. John Evans, in his standard work on *The Ancient Stone Implements of Great Britain*, published in 1872, records discoveries of these remains in six caves and fifty-four gravel banks in England and Wales. The number of such discoveries has at least been doubled since that date, and foreign localities are still more numerous. Public and private museums are everywhere displaying these shaped flints amongst the articles which appeal to curiosity and interest. They have been found in Spain, Italy, Greece, Algeria, Upper and Lower Egypt (it is said, in the conglomerate slabs of which the tombs of the kings are built), Palestine, India, and even in North America; all substantially of the same type, lying under similar conditions, of the same geological age, and apparently testifying of the same social epoch. They occur beyond the bounds of our ordinary history, and denote a community of character over an area startling from its extent. It is as though the world had at one time passed through a hunting or predatory stage, as regards man and the mammals, interrupted by a watery catastrophe.

Doubtless some collectors of these implements have been deceived by the similarity of accidental chips to artificial forms, and have classed among the latter some of the former. The unwary have been imposed upon by counterfeit originals, which have been readily struck out to supply the demand. But these sources of error are easily unmasked and allowed for, and do not affect the conclusions which scientific men have drawn from an immense number of undoubtedly valid specimens. It cannot for a moment be disputed that the great majority of the tools are veritable works of ancient man.

At Crayford, where there are the evidences of a palæolithic tool factory, the shape of the implements shows that they have been used for cutting, for digging, and for hammering. The bones of mammoth and rhinoceros in the same deposit, may be relics of creatures slain and dressed for food with these implements thus ready at hand.

Although flint is the best material for stone cutlery, yet every variety of quartzose or hard stone has been used. Whilst there are no polished stones amongst the palæolithic implements, there are numerous unpolished ones accompanying those of the neolithic age, or even down to recent times. Stone being commonly at hand, and presenting or taking a cutting edge, would of course be adapted and used by all people in proportion to the difficulty of obtaining metal, and exclusively in the absence of the latter.

There is a general resemblance between all the flint tools, yet each district has its fashion, so to speak. The eye soon learns to distinguish between the almond-shaped and the spear-shaped, between the St. Acheul type and the Hoxne type. So, too, there is a great difference in finish of tools from various places. At Clapton, in a succession of similar beds, the latest are the best finished. The French archæologists have elevated these differences into characteristics of progression during tens of thousands of years, without any shadow of proof, and against all probability.

It is a fact that up to the present time no human bones have been found in the beds containing the tools, though there are abundant bones, teeth, tusks, and horns of animals. The reply that human bones decay quickly is not satisfactory, as other mammalian fragments are preserved in the same circumstances. We must confess ignorance, and be content to wait. In spite of this we are bound to consider the fact as established, that before the historic period there was an age, quite unrecorded in writing, during which man existed, and which, at least so far as Britain is concerned, was terminated by rushes of fresh water and changes of land level.

#### IV. TIME.

It is clear that once upon a time, before the uppermost gravels were laid down, the soil then forming the surface was trodden by man, who made, used, and left stone tools of a special type. Secondly, there was a time when by repeated rushes of water, these worked stones were carried forward with pebbles washed out of the surface chalk, and deposited by floods, with sand, gravel, or mud, where we now find them.

It is equally clear that the last mentioned action must have been of sufficient force and long duration to have scooped out or enlarged many existing valleys, to have tranquilly deposited sediment in some places, and in others to have allowed the accumulation of sand amongst which are remains of molluscan creatures which lived and died there, and to allow for successive occupancy or resort by numerous tribes of larger animals, and by man. But the effects of the denudation in excavating and widening valleys are far too considerable to have been produced by the feeble causes now in operation: the disruption and displacement of strata demands violent action, and the wide-spread gravels point to floods far more powerful than the present streams could furnish. Hence time is not the only element to be considered.

The great difference in construing the foregoing facts in their bearing on time arises from the opposite opinions held by advocates of rival schools of geology. The one, following Lyell, holding that these effects were produced in the same manner and at the same rates of time as similar effects are at present, estimate the time required for wearing down river-beds into valleys, and for depositing gravel and loam, by scores of thousands of years; whereas others, seeing in the records of the past positive proofs of violence, and fuller and swifter actions of force, maintain the probability of a far shorter duration, and put forward the sufficiency for all purposes of about eight thousand years from the present time. A third section of geologists, comprising many of the chief scientists of the day, decline to assign any date in years for the antiquity of man, affirming that the facts are not yet ripe for any such determination. Professor Prestwich, writing of the geological changes since the deposition of the flint implements in the Somme valley, says:

"All these phenomena indicate long periods of time. I do not, however, find that we are yet in a position to measure that time, or even to make an approximate estimate respecting it. That we must greatly extend our present chronology with respect to the first existence of man appears inevitable; but that we should count by hundreds of thousands of years is, I am convinced, in the present state of the inquiry, unsafe and premature."—*Theoretical Considerations on the Drift containing Implements*, etc. Royal Society's "Philosophical Transactions," 1862.

It is, however, surprising to find how soon the settled course of nature obliterates all marks of such surface changes as the condition of the gravels and brick-earth indicate. The estuaries around our south-eastern coast, which have been filled up in historical times, some within the last seven hundred years, to a height of thirty feet from their sea-level, by the gradual accumulation of soil, now look like solid earth, in no way differing from the far older land adjoining. The harbors out of which our Plantagenet kings sailed are now firm well-timbered land. The sea-channel through which the Romans sailed on their course to the Thames, at Thanet, is now a puny fresh-water ditch, with banks apparently as old as the hills. In Bede's days, in the ninth century, it was a sea-channel three furlongs wide.

The palæolithic changes, save the one disturbance when the strata were raised and broken, and the Straits of Dover formed, and the cave-cliffs raised up, and wide valleys reëxcavated, do not display any phenomena requiring longer time than about a thousand years. We have then to assign some time for the disturbances referred to, and we make allowance for this in proposing less than another thousand years.

We have already observed that most of the implement gravels overlie the glacial *débris*. We may cite as a typical instance one which occurs in Swabia, and is related by the explorer, Herr Fraas. A settlement of the primitive population was discovered at Schüssenried. A hole had been dug in the glacier *débris*, and the remains of their meals, sweepings, and implements that were broken or had become useless were cast into it. The first particularly excite our interest, for they enable us to determine what was the prey of those primitive inhabitants. The bones of the reindeer preponderate, the number of them being so great that Fraas believes himself justified in concluding that hundreds of them had been slain. The bones of a bear, probably not different from our *Ursus Arcticus*, occur, but are rare. There were also found bones of a glutton, and other animals belonging to the colder regions, and of a horse—of species now living. All these bones lie thickly embedded in moss, to which they are indebted for their good state of preservation; and which itself was well preserved, and proved to be either of high northern species, or of those found near the snow line in the Alps. All



the implements that were found were of stone, particularly flint, or of horn and bone. The first kind, of which six hundred specimens were collected, must have been manufactured on the spot, as appears from the occurrence of splinters. Many hard Alpine stones were gathered from the glacier *débris*. The smaller fine implements were chiefly made from reindeers' horns. The absence of every trace of pottery, as well as the rather rough form of the implements, renders it, according to Fraas, in the highest degree probable that the settlement in question is one of the very earliest, and that it was formed here at the end of the glacial period. Hence, the cold climate, which is evidenced by the remains, would easily be accounted for.

Were it not for the unmistakable proofs, from changes of level, of a great physical disturbance, we might content ourselves with the conclusion that the rude flint implements were the first stage of the art of barbarians, succeeding generations of whom, after years of practice, developed further skill in the fabrications of the polished stone age. But the sequence of events has been so strangely interrupted by physical catastrophe, that we cannot lay down any such law of development, for there appears to be an absolute break, and no bridge has yet been discovered between the first and the second period. We may surmise that the men who had used the rough tools, and had been driven back by floods and earth movements, or their successors, may have returned later on, with improved fashions in stone; and in after years, again, may have acquired by intercourse with more favored countries, the use of metals, the fabrication of pottery, and other tokens of civilization; but of this we have no evidence.

It has been contended that the progress of man from the state of comparative civilization which we may, from Scripture, infer to have been his first condition, to that of a savage of the stone age, or *vice versa*, would inevitably require a lapse of very many thousand years; but the observations of modern travellers do not support this view, and in confirmation of this we may cite the following instance. Baron Nordenskiöld, in his narrative of his stay among the inhabitants of the shores of the Arctic Sea, near Behring Strait, states that two peoples of different race and language, placed under similar conditions of climates and

food-supply, rapidly converge into common features and character; and he notices the quick absorption into the mass of any foreign element casually introduced. He also adds the important conclusion from his observations, that the changes which can be ascertained to have taken place historically, are changes not of progression, but of decadence. He even considers that the lost Danes, who are known to have colonized Greenland in the eighth century, of whom nothing has been heard since 1406 A.D., have been converted into Esquimaux, and thus all traces of them have disappeared. He says, "A single century of complete separation from Europe would be sufficient to carry out thoroughly this alteration of the present European population of Greenland; and by the end of that period, the traditions of Danish rule would be very obscure in that land."<sup>1</sup>

We may conclude with Dr. Southall, that "the palæolithic hunters of the Somme valley did not *originate* in that inhospitable climate, but moved into Europe from some more genial region."<sup>2</sup>

The extent of the area over which the tools are found, does not give us much help in constructing a chronology, for gravel beds, unlike the older strata, are not continuous on their level, but are constantly interrupted, and are also varying in thickness and in the nature of their materials. The difficulty of framing any general system of succession appears to be almost insuperable. Most of the smaller gravel beds have been disturbed, re-sorted, and redistributed by water, more than once, as their contents show. Hence the opportunity offered for the most widely differing computations of age and duration. It is precisely similar with Egyptian chronology. There are certain dynasties about which learned men are in doubt whether they were successive or contemporaneous. Each chronologist stretches or contracts these missing links as suits his own theory.

#### V. CONCLUSION.

M. Gabriel de Mortillet, Professor of Prehistoric Anthropology in Paris, in his work just published, *La Préhistorique Antiquité de l'Homme*, deduces from similar but more extended data of the

<sup>1</sup> *Voyage of the Vega*, II, 544.

<sup>2</sup> *Epoch of the Mammoth*, p. 315.

kind we have given above, the astounding conclusion that man appeared on the earth 230,000 years ago! *i.e.*, he adds to the six thousand years of actual history 224,000 prehistoric years,—years of stone implements, years of a progress which might be more fitly termed stagnation. This great *terra incognita* is by him peopled with an imaginary race of men beginning before the glacial epoch, continuing in southern climes whilst it lasted, returning without improvement, living on French and German soil for fifty thousand years, progressing so slowly as to learn nothing but a slight improvement in stone tools, being from generation to generation fishers and hunters only, knowing nothing of agriculture, living without domesticated animals, and without any religious ideas! Such a phase of humanity is absolutely inconceivable. It is entirely inconsistent with all that we are, and all that we know. After the endurance of this forlorn companionship with beasts during nearly 200,000 years, he says that man became an artist, *i.e.*, he learnt to scratch out lines on ivory and bone. He goes on to say, that a few thousand years after this, there was a movement of the world's population, the eastern tribes having acquired some religiosity, some knowledge of art and political life, invaded the west, and gave a new character to the mixed race which resulted from the irruption of the civilized community into the territory of our savage but simple forefathers in these western parts. Surely, all this may be fiction, may be 'poetry,' but it is neither science nor philosophy. The assumption of the almost infinitely slow succession of about a myriad generations of shivering savages is too grotesque to be dealt with seriously, had it not had the advantage of annunciation by one of the foremost of the archæologists of France. Well may M. Mortillet close his book, as he does, with the sage reflection, "But the prehistoric is a new science, far, very far, from having said its last word." We can only add,—very far indeed!

With regard to time, we must again call attention to the fact that the human period has certainly extended backwards into the time when some of the great animals of which written history gives no account, were living on the earth. The mammoth, for instance, must have been known to the cave-dwellers in France, as carvings of its form on ivory and bone have been

found, although legend and history are alike ignorant of its existence. Indeed, the mammoth has left more numerous traces in quaternary deposits than any other animal. Its bones and teeth are found scattered on the uplands, where they must have fallen before the valleys were reëxcavated, and on the banks and levels of streams, partly brought down by the rivers and partly buried on the land they occupied whilst living. The mammoth became extinct in Siberia within very late quaternary times, if not within the historic period; but we are not furnished with any date assignable to the undoubted fact of its contemporaneity with the first men in England. We cannot tell how long they lived together.

Historians of the older school invariably commenced their works with preliminary tables, the length of which was in proportion to the writer's estimate of the importance of his subject. Geologists have taken similar license; but the scientific imagination has laws, and one of these is expressed in the principle that a sufficient cause is reason enough. We have to deal with the duration of a long watery epoch, succeeding a long icy one, and with the occurrence, after the appearance of man, of a series of physical changes of surface, resulting in the present condition of things. As there is no secular time-record available, we can only reckon by the events; and although many, perhaps the majority of geologists, studying the earth alone, would be of opinion that these events may have occupied somewhat more than eight thousand years, yet other geologists from the same facts may arrive at a different conclusion. If, therefore, from any other science or study, we have reason to believe that the race of men has existed only about eight thousand years, it is impossible for geological science at present to confute or disprove it.

Can we put the case affirmatively? We have made out three stages in the quaternary, disregarding the boulder-clay as any index of time. The first stage, was when man appeared; the second, when he was displaced by floods; the third, when he lived and worked on the present surface. Now, naturalists bring down the close of the glacial period far into the quaternary times, for they point out that there are no palæolithic implements found in Scandinavia, though neolithic tools abound;

whence it is inferred that this district was then under ice and uninhabitable, and continued so until the neolithic age. The neolithic age is estimated to have occurred here about four or five thousand years ago,<sup>1</sup> so that the latest work of the glacial epoch vanished not earlier than this. If we assign any reasonable duration before this to the prior palæolithic age, including the period of physical disturbance and of man's antecedent resort here, we arrive at seven or eight thousand years backward from the present, and no more. If this computation is well grounded, it at least dissipates all visions of fabulous antiquity.

We may be allowed to mention that neither the calculations of astronomy, nor the inductions of ethnology, afford us any certain aid in this inquiry at present.<sup>2</sup>

It will be satisfactory to place together such few elements as we possess from history concerning the earliest dates. Babylonian authorities (a brick-record of Nabonidus<sup>3</sup>) carry the annals of that kingdom to B.C. 3800,—the epoch of the great Sargina, supposed to have flourished within a few generations of the Flood, which the same records portray. Egyptian discoveries carry us up no higher,<sup>4</sup>—say six thousand years from the present time. We therefore assume this to be the extreme duration and antiquity of what we may term the historic period. This includes the neolithic age in Europe and America; includes the epoch of the cromlechs and stone circles; includes the era of the prehistoric cities on the site of Mycenæ and Troy; and includes, of course, all antiquity save the palæolithic age.

The Bible, in the first chapters of *Genesis*, declares a limit to the antiquity of man, but does not undertake to fix it. The only materials which it offers for the calculation are genealogies given for purposes of pedigree, and evidently not chronologically complete.<sup>5</sup> As was to be expected, different writers have, from

<sup>1</sup> Worsaael fixes its close in Denmark at about twenty-five hundred years ago. — *Primeval Antiquities*, p. 135.

<sup>2</sup> See BOYD DAWKINS, Address at Southampton, *Nature*, August 31st, 1882.

<sup>3</sup> Described in Sir H. C. RAWLINSON's letter to *The Athenæum*, December 9th, 1882.

<sup>4</sup> Vide R. S. POOLE, *The Cities of Egypt*, 1882, who, however, says, "The chronology of ancient Egypt is as yet undetermined, the best authorities differing by many centuries."

<sup>5</sup> "From the Call of Abraham it is possible to construct a chronology that can-

these, given very different computations of time. According to the construction adopted in the Septuagint, the creation of man occurred 7517 years ago; according to Dr. Hales 7294; according to the Vulgate 6067; and according to Bishop Ussher 5967. Secular history, as we have seen, goes back nearly six thousand years, so that the interval between that and the Creation seems to require some extension of the ordinary chronology, to allow for the immediate antecedents of secular history and for the whole palæolithic period. If for these, and the first human period recorded in *Genesis*, we allow two thousand years, we get a term of about eight thousand years as warranted by deductions from history, geology, and Scripture. If further geological evidence should at any time require it, we might without violence to the Scriptures, commence our chronology a few years earlier still. With geological records of great uncertainty, and written records declared to be incomplete for this purpose, we submit that it is sufficient for us to show a near approximation between science and Scripture, and to express the conviction, founded on actual facts, that the more geology is studied and its facts ascertained, the closer does this approximation become: already this is the case in the judgment of some leading geologists, for undoubtedly the tendency of modern observation and discovery has been to bring down and modernize the mammalian and prehistoric epochs.

Finally, the matter stands thus,—the exact age of man on the earth is not ascertainable by science, but science shows to us a number of converging probabilities which point to his first appearance along with great animals about eight thousand years ago, and certainly not in indefinite ages before that.

Geology, standing beside the most ancient works of man hitherto discovered by it, interprets them as belonging to a race of savages. We know, however, too little about them to come to any such conclusion; but if this were so, we are warranted in saying that these were not the first men, and that they must have

not be far wrong. . . . Previously to that date all is uncertain, and while in a religious point of view we have everything that we want, it is impossible to construct a scientific chronology of the world from the records in *Genesis* as it is to construct from these same records a scientific geology or astronomy."—The Dean of Canterbury, *O. T. Commentary*, p. 9.

had ancestors more civilized than themselves, for the science of ethnology assures us of this. It discovers amongst the very oldest monuments open to its examination, vestiges of language and manners which must have come from antecedent culture. Like rounded pebbles in a conglomerate rock, these worn fragments are foreign to their surroundings. On this important point we may quote the testimony of Professor Max Müller, who says:

"What do we know of savage tribes beyond the last chapter of their history? Do we ever get an insight into their antecedents? Can we understand, what after all is everywhere the most important and most instructive lesson to learn, how they have come to be what they are? . . . Their language proves, indeed, that these so-called heathens, with their complicated systems of mythology, their artificial customs, their unintelligible whims and savageries, are not the creatures of to-day or yesterday. Unless we admit a special creation for these savages, they must be as old as the Hindoos, the Greeks and Romans, as old as we ourselves. . . . They may have passed through ever so many vicissitudes, and what we consider as primitive may be, for all we know, a relapse into savagery, or a corruption of something that was more rational and intelligible in former ages."—*India*, 1883.

We are thus led to infer that geology has not yet shown to us any traces of the first men. It may enlarge its field and continue its search for these. This science, so far as it has gone, appears to find its first specimens of humanity in a rude decivilized condition. It discovers, at present, nothing whatever of his antecedents. But the facts which it brings before us correspond with the known sacred and profane history concerning the alas, too early condition of our race. Our science has no key to the higher mysteries of man's nature; being 'of the earth, earthy,' it leaves us in the region of the shadow of death, with, however, the natural conviction that there must be light elsewhere. Nor is this expectation disappointed, for we read, "Hear, O heavens, and give ear, O earth, for the Lord hath spoken!" The overture to *Paradise Lost* takes up and repeats the strain:

"Of man's first disobedience, and the fruit  
Of that forbidden tree, whose mortal taste  
Brought death into the world, and all our woe,  
With loss of Eden, till one greater Man  
Restore us, and regain the blissful seat."







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